

CHAPTER 7

CONTROLLED SUBSTANCES

“The illegal use of drugs by members of the Armed Forces is a matter of concern that requires intensive, coordinated departmental effort for its control and elimination. The heavy responsibilities of members of the Armed Forces make drug abuse by any member a matter of serious concern which dictates intensive effort to eliminate it.” (Report of the Department Task Force on Narcotic and Drug Abuse)

In this chapter we will discuss and try to familiarize you with the most common narcotics and dangerous drugs with which the Master-at-Arms (MA) may come in contact. The drug scene is ever changing and, based on availability and trend, a few drugs will be more popular at one time than another. Oftentimes a certain drug will become unpopular to drug abusers because of its high cost or because it is no longer considered “safe.” A newer drug or revised version of an old drug will then take its place and become the “now thing.”

COMMAND RELATIONSHIP TO DRUG ABUSE

LEARNING OBJECTIVES: State the Navy's policy on drug abuse in terms of an initial drug offense and the punishment awarded. Identify the maximum punishments the Navy imposes on unlawful possession and use of controlled substances.

Most drug abuse involves substances like marijuana, LSD, and heroin which have no legitimate medical use. However, some of the drugs that are abused—principally morphine, amphetamine, and the barbiturates—are invaluable tools for the physician who strives to cure and alleviate disease.

The important factor in drug abuse is the abuser, not the drug. Drugs have a definite place in our society and should be treated with respect. When drugs are abused, both the individual and society suffer. Because of this concern for the individual and society,

drug abuse and its related problems must be discussed fully.

Drug abuse has a particularly important consequence for the armed forces. Unlike civilians, those in military service have a special dependency on each other. The lives of everyone on a Navy ship may depend on the alertness of one person assigned to close certain watertight doors. Each member of the Seabee fire team is dependent on other team members for survival in a combat situation. There are no “passengers” in fighter aircraft or bombers. No commanding officer (CO) can trust the fate of his or her unit, ship, or plane to someone under the influence of drugs.

The drug abuser in military service is a definite security risk. For example, the drug abuser can be blackmailed by threat of exposure. The abuser can be led to sell or give away classified information to support a drug habit. Also, while under the influence of narcotics, the abuser may overlook or ignore proper security measures.

In military law, wrongful acts concerning narcotics and marijuana have traditionally been charged as “conduct prejudicial to good order and military discipline.” In the past years, mandatory processing for separation of first-time drug abuse offenders was expanded to include all officer and petty officer paygrades and this policy has been very effective in deterring drug abuse. But on 01 March 1992, the Navy changed its drug policy to fully support a “zero tolerance” to drug abuse. Effective that date, processing for separation of all first time drug abuse offenders for all Navy paygrades became mandatory, using the following policy:

- A. All Navy personnel in paygrades E-1 and above who commit an initial drug offense shall be disciplined as appropriate, screened for drug dependency, and processed for separation. Individuals separated administratively or punitively who are medically diagnosed as drug dependent shall be offered Department of Veterans Affairs treatment at time of separation.

NONNARCOTIC DRUG ABUSE

- B. Self-referral for drug abuse is an incident of drug abuse and does not prevent a member from being administratively processed for separation.
- C. For this policy to apply to drug abuse incidents identified through urinalysis, samples must be obtained on, or subsequent to 01 MAR 92.

Further information on separation of drug abuse individuals can be obtained from *Alcohol and Drug Abuse Prevention and Control* OPNAVINST 5350.4, and the *Uniform Code of Military Justice* (UCMJ), Article 112a.

The *Manual for Courts-Martial* (MCM) provides the following maximum punishments for wrongful use, possession, and so on, of controlled substances. See table 7-1.

As for the abuser—and potential abuser—of nonnarcotics, there is a growing recognition of the value of an educational, rather than a punitive approach. Through an energetic program of drug abuse education, the rate of those who experiment has declined.

LEARNING OBJECTIVES: Discuss the history of nonnarcotic drug abuse in the United States. List some of the nonnarcotic drugs that have been abused.

In years past, public attention has focused on the abuse of nonnarcotic drugs such as amphetamines (stimulants), barbiturates (sedatives), certain tranquilizers, and "hallucinogens." The growing trend toward abuse of these drugs was noted by the White House Conference on Narcotics and Drug Abuse in 1962. Much of the awareness has come from newspaper and magazine articles reporting widespread abuse of nonnarcotic drugs by high school and college youth. Though the extent of use is unknown, there is considerable evidence that the problem is growing. In 1966, the Medical Society of New York reported that while drug abuse in the city's high schools or the state's colleges was not extensive, marijuana, LSD, and similar drugs "may soon present a dangerous problem." The medical society report blamed this possibility, in part, on "frequent

Table 7-1.—Maximum Punishments for Controlled Substances

Type of Controlled Substance Abuse	Type of Discharge	Length of Confinement	Amount of Forfeiture
Wrongful use, possession, manufacture, or introduction of:			
• Amphetamine, cocaine, heroin, lysergic acid diethylamide, marijuana (except use or possession of less than 30 grams), methamphetamine, opium, phenacyclidine, secobarbital, and Schedule I, II, and III controlled substances	DD, BCD	5 yr	Total
• Marijuana (except use or possession of less than 30 grams), phenobarbital, and Schedule IV and V controlled substances	DD, BCD	2 yr	Total
Wrongful distribution of, or, with intent to distribute, wrongful possession, manufacture, introduction, or wrongful importation or exportation of:			
• Amphetamine, cocaine, heroin, lysergic acid diethylamide, marijuana, methamphetamine, opium, encyclidine, secobarbital, and Schedule I, II, and III controlled substances	DD, BCD	15 yr	Total
• Phenobarbital and Schedule IV and V controlled substances	DD, BCD	10 yr	Total

glorification of hallucinogens without adequate details regarding their danger.” Subsequent reports by the American Medical Association (AMA) have further confirmed this study.

Public opinion has tended to regard the nonnarcotic abuser (except, perhaps, for the marijuana offender) with less harshness than the narcotic addict. In part, this may reflect the public’s association of nonnarcotic drugs with occasional or “spree” use, the social acceptance and widespread use of amphetamines and barbiturates in legitimate medical therapy, and the availability of such drugs from other than underworld contacts. Also, while the dangers of narcotic addiction are acknowledged, the dangers inherent in many nonnarcotics have not been generally recognized.

The net result of this thinking has been to curtail misuse of nonnarcotics by laws aimed at the source rather than the user. Accordingly, in 1965, proceeding from a recommendation by the President’s Advisory Commission on Narcotic and Drug Abuse, the Drug Abuse Control Amendments were added to the Food, Drug and Cosmetic Act of 1938. The purpose of these amendments was to eliminate illegal traffic in amphetamines, barbiturates, and drugs of abuse other than narcotics and marijuana. To enforce these amendments, a Bureau of Drug Abuse Control has been created under the Food and Drug Administration (FDA) to regulate distribution of amphetamines, barbiturates, and other abused nonnarcotic drugs.

In 1968, the Bureau of Drug Abuse Control and the Federal Bureau of Narcotics were merged into a single agency, the Bureau of Narcotics and Dangerous Drugs (BNDD), in the Justice Department. In 1973 BNDD and several other agencies were combined to form the agency known as the Drug Enforcement Administration (DEA).

From 1968 to the present, drug abuse has grown at an alarming rate throughout the world, but especially in the United States.

DRUG TERMINOLOGY

LEARNING OBJECTIVES: Define the most commonly used drug and drug abuse terms.

In your dealings with narcotics and dangerous drugs, you will find the following terms are those most commonly used.

Narcotics— Any preparations or derivatives of opium, synthetic narcotics, opiates, or cocaine. Examples are opium, heroin, morphine, codeine, paregoric, dilaudid, pethidine, and methadone. Note that federal law defines cocaine as a narcotic, though medical science classifies it as a stimulant only.

Dangerous drugs (an administrative label)— Nonnarcotic substances that the Attorney General or designee, after investigation, has found to have, and by regulation designates as having, a potential for abuse because of their depressant or stimulant effect on the central nervous system or their hallucinogenic effect (Public Law 91-5 13).

Controlled Substances— A drug, or other substance or immediate precursor thereof, listed in the current schedules of Title 21, *U.S. Code* (U.S.C.), Section 812.

Depressant— Any of several drugs that calm or sedate by acting on the central nervous system. Medical uses include the treatment of anxiety, tension, and high blood pressure.

Sedative— An agent that quiets or calms activity.

Stimulant— Any of several drugs that act on the central nervous system, producing excitation, alertness, and wakefulness. Medical uses include the treatment of mild depressive states, overweight, and narcolepsy.

Hallucinogen— Any of several drugs, popularly called psychedelics, that produce sensations such as distortions of time, space, sound, color, and other bizarre effects. While they are pharmacologically nonnarcotic, some of these drugs are regulated under federal narcotic laws.

Hypnotic— An agent that induces sleep.

Central nervous system— The brain and spinal cord.

Convulsions— An involuntary and violent irregular series of contractions of the muscles.

Delirium— A condition characterized by mental excitement, confusion, disordered speech and, often, hallucinations.

Drug abuse— Illegal, wrongful, or improper use of any narcotic substance, marijuana, or other dangerous drug, or the illegal or wrongful possession, sale, transfer, delivery, or manufacture of the same. When such drugs have been prescribed by competent

medical personnel for medical purposes, their proper use by the patient is not drug abuse.

Drug abuser— One who has illegally, wrongfully, or improperly used any narcotic substance, marijuana, or dangerous drug, or who has, for whatever reason, illegally or wrongfully possessed, sold, transferred, delivered, or manufactured the same.

Drug experimenter— One who has illegally, wrongfully, or improperly used drugs for a specific purpose. The exact number of usages is not necessarily as important in determining the category of user as is the intent of the user, the circumstances of use, and the psychological makeup of the user.

Drug user spree— One who has illegally, wrongfully, or improperly used drugs for “kicks” or for the experience. Some persons falling under this category may only try drugs a couple of times and stop. Personnel in this category usually take drugs in groups or at social functions. There is little psychological dependence.

Drug addict (hard core)— One whose activities revolve almost entirely around drug experiences and securing supplies. As the term drug addict is used herein, three conditions must be present:

1. The individual must have developed a tolerance for the drug.
2. The individual must have developed a psychological or compulsive dependence, and drug effects must be necessary to maintain a state of well-being.
3. The individual must have developed physiological dependence on the drug and, in the absence of the drug, must exhibit the withdrawal syndrome. This dependence results from an altered physiological state from prolonged drug use that necessitates continued use to avoid withdrawal symptoms.

Drug dependence— A state arising from repeated administration of a drug on a periodic or continual basis. Its characteristics will vary with the agent involved. That is made clear by designating the particular type of drug dependence in each specific case—for example, drug dependence of the morphine type, of the cocaine type, of the cannabis type, of the barbiturate type, and so on.

Physical dependence— Physiological adaptation of the body to the presence of the drug. In effect, the body develops a continuing need for the drug. Once

such dependence has been established, the body reacts with predictable symptoms if the drug is abruptly withdrawn. The nature and severity of withdrawal symptoms depend on the drug being used and the daily dosage level attained.

Psychological dependence— An attachment to drug use that arises from a drug’s ability to satisfy some emotional or personality need of an individual. This attachment does not require a physical dependence, although physical dependence may seem to reinforce psychological dependence. An individual may also be psychologically dependent on substances other than drugs.

Psychosis— A major mental disorder; any serious mental derangement.

Habituation— A condition, resulting from the repeated consumption of a drug, that includes these characteristics: (1) a desire (but not a compulsion) to continue taking the drug for the sense of improved well-being that it engenders; (2) little or no tendency to increase the dose; (3) some degree of psychic dependence on the effect of the drug, but absence of physical dependence and, hence, no abstinence syndrome; (4) a detrimental effect, if any, primarily on the individual.

Potentiation— Potentiation occurs when the combined action of two or more drugs is greater than the sum of the effects of each drug taken alone. Potentiation can be very useful in certain medical procedures. For example, physicians can induce and maintain a specific degree of anesthesia with a small amount of the primary anesthetic agent. Potentiation may also be dangerous. For example, barbiturates and many tranquilizers potentiate the depressant effects of alcohol.

Tolerance— With many drugs, a person must keep increasing the dosage to maintain the same effect. This characteristic is called tolerance. Tolerance develops with the barbiturates, with amphetamines and related compounds, and with opiates.

Toxic effects (poisoning)— Any substance in excessive amounts can act as a poison or toxin. With drugs, the margin between the dosage that produces beneficial effects and the dosage that produces toxic or poisonous effects varies greatly. Moreover, this margin will vary with the person taking the drug.

Side effects— A given drug may have many actions on the body. Usually one or two of the more prominent actions will be medically useful. The

others, usually weaker effects, are called side effects. They are not necessarily harmful, but may be annoying.

Supplier— One who furnishes illegally, wrongfully, or improperly to another person for gain any of the drugs defined earlier.

Casual supplier— One who furnishes illegally, wrongfully, or improperly to another person, a small amount of any of the drugs defined herein for the convenience of the user rather than for gain.

FEDERAL LAWS CONCERNING DRUGS

LEARNING OBJECTIVES: Explain the formal scheduling of drugs. List four items that determine a drug's potential for abuse, and identify eight factors that determine the schedule into which a drug should be placed. Identify the characteristics of each of the five schedules of drugs. Explain temporary drug scheduling, controlled substance analogues, and international drug treaty obligations.

The Federal Controlled Substances Act (FCSA), Title II, of the Comprehensive Drug Abuse Prevention and Control Act of 1970, is the legal foundation of the government's fight against abuse of drugs and other substances. This law is a consolidation of numerous laws regulating the manufacture and distribution of narcotics, stimulants, depressants, and hallucinogens. Drugs may be placed on the FCSA by administrative or legislative acts passed by Congress. More recently, in 1988, Congress passed the Chemical Diversion and Trafficking Act. This Act allows for the regulation of certain chemicals that are used in the making of controlled substances.

FORMAL SCHEDULING

The FCSA places all substances that are in some manner regulated under existing federal law into one of five schedules. This placement is based upon the substance's medical use, potential for abuse, and safety or dependence liability. The act also provides a mechanism for substances to be controlled, or added to a schedule; decontrolled, or removed from control; and rescheduled or transferred from one schedule to another. The procedure for these actions is found in Section 201 of the FCSA (21 U.S.C. 811).

Proceedings to add, delete, or change the schedule of a drug or other substance may be initiated by the Department of Health and Human Services (HHS), by the DEA, or by petition from any interested person—the manufacturer of a drug, a medical society or association, a pharmacy association, a public interest group concerned with drug abuse, a state or local government agency, or an individual citizen. When a petition is received by the DEA, the agency begins its own investigation of the drug.

The agency also may begin an investigation of a drug at any time based upon information received from law enforcement laboratories, state and local law enforcement and regulatory agencies, or other sources of information.

Once the DEA has collected the necessary data, the administrator of the DEA, by authority of the Attorney General, requests from HHS a scientific and medical evaluation and recommendation as to whether the drug or other substance should be controlled or removed from control. This request is sent to the Assistant Secretary of Health of HHS. HHS solicits information from the Commissioner of FDA, evaluations and recommendations from the National Institute on Drug Abuse, and, on occasion, from the scientific and medical community at large. The Assistant Secretary (by authority of the Secretary) compiles the information and transmits back to the DEA a medical and scientific evaluation regarding the drug or other substance—a recommendation as to whether the drug should be controlled, and in what schedule it should be placed.

The medical and scientific evaluations are binding on the DEA with respect to scientific and medical matters. The recommendation on scheduling is binding only to the extent that if HHS recommends that the substance not be controlled, the DEA may not control the substance.

The threshold issue is whether the drug or other substance has potential for abuse. If a drug does not have a potential for abuse, it cannot be controlled. Although the term *potential for abuse* is not defined in the FCSA, there is much discussion of the term in the legislative history of the act. The following items are indicators that a drug or other substance has a potential for abuse:

- There is evidence that individuals are taking the drug or drugs containing such a substance in amounts sufficient to create a hazard to their health or to the safety of other individuals or of the community.

- There is significant diversion of the drug or drugs containing such a substance from legitimate drug channels.

- Individuals are taking the drug or drugs containing such a substance on their own initiative rather than on the basis of medical advice from a practitioner licensed by law to administer such drugs in the course of his or her professional practice.

- The drug or drugs containing such a substance are new drugs so related in their action to a drug or drugs already listed as having a potential for abuse to make it likely that the drug will have the same potentiality for abuse as such drugs, thus making it reasonable to assume that there may be significant diversions from legitimate channels, significant use contrary to or without medical advice, or that it has a substantial capability of creating hazards to the health of the user or to the safety of the community. Of course, evidence of actual abuse of a substance is indicative that a drug has a potential for abuse.

In determining into which schedule a drug or other substance should be placed, or whether a substance should be decontrolled or rescheduled, certain factors should be considered. Specific findings are not required for each factor. These factors are listed in Section 201 (c), 21 U.S.C. 811 (c), of the FCSA and are as follows:

(1) The drug's actual or relative potential for abuse.

(2) Scientific evidence of the drug's pharmacological effects. The state of knowledge with respect to the effects of a specific drug is, of course, a major consideration. It is vital to know, for example, whether or not a drug has a hallucinogenic effect if it is to be controlled because of that. The best available knowledge of the pharmacological properties of a drug should be considered.

(3) The state of current scientific knowledge regarding the substance. Criteria (2) and (3) are closely related. However, (2) is primarily concerned with pharmacological effects and (3) deals with all scientific knowledge with respect to the substance.

(4) Its history and current pattern of abuse. To determine whether or not a drug should be controlled, it is important to know the pattern of abuse of that substance, including the socioeconomic characteristics of the segments of the population involved in such abuse.

(5) The scope, duration, and significance of abuse. In evaluating existing abuse, the administrator must know not only the pattern of abuse but whether the abuse is widespread. In reaching his or her decision, the administrator should consider the economics of regulation and enforcement attendant to such a decision. In addition, he or she should be aware of the social significance and impact of such a decision upon those people, especially the young, that would be affected by it.

(6) What risk, if any, there is to the public health. If a drug creates dangers to the public health, in addition to or because of its abuse potential, then these dangers must also be considered by the administrator.

(7) The drug's psychic or physiological dependence liability. There must be an assessment of the extent to which a drug is physically addictive or psychologically habit-forming, if such information is known.

(8) Whether the substance is an immediate precursor of a substance already controlled. The FCSA allows inclusion of immediate precursors on this basis alone into the appropriate schedule and thus safeguards against possibilities of clandestine manufacture.

After considering the previous listed factors, the administrator must make specific findings concerning the drug or other substance. This will determine into which schedule the drug or other substance will be placed. These schedules are established by the FCSA. They are as follows.

Schedule I

- The drug or other substance has a high potential for abuse.

- The drug or other substance has no currently accepted medical use in treatment in the United States.

- There is a lack of accepted safety for use of the drug or other substance under medical supervision.

Schedule II

- The drug or other substance has a high potential for abuse.

- The drug or other substance has a currently accepted medical use in treatment in the United States or a currently accepted medical use with severe restrictions.

- Abuse of the drug or other substance may lead to severe psychological or physical dependence.

Schedule III

- The drug or other substance has a potential for abuse less than the drugs or other substances in Schedules I and II.

- The drug or other substance has a currently accepted medical use in treatment in the United States.

- Abuse of the drug or other substance may lead to moderate or low physical dependence or high psychological dependence.

Schedule IV

- The drug or other substance has a low potential for abuse relative to the drugs or other substances in Schedule III.

- The drug or other substance has a currently accepted medical use in treatment in the United States.

- Abuse of the drug or other substance may lead to limited physical dependence or psychological dependence relative to the drugs or other substances in Schedule III.

Schedule V

- The drug or other substance has a low potential for abuse relative to the drugs or other substances in Schedule IV.

- The drug or other substance has a currently accepted medical use in treatment in the United States.

- Abuse of the drug or other substances may lead to limited physical dependence or psychological dependence relative to the drugs or other substances in Schedule IV.

When the administrator of the DEA has determined that a drug or other substance should be controlled, decontrolled, or rescheduled, a proposal will be published in the *Federal Register* setting forth the schedule for which control is proposed, or that a substance should be decontrolled, and inviting all interested persons to file comments with the DEA. Affected parties may also request a hearing with the DEA. If no hearing is requested, the DEA will evaluate all comments received and publish a final order in the *Federal Register*, controlling the drug as proposed or

with modifications based upon the written comments filed. This order will set the effective dates for imposing the various requirements imposed under the FCSA.

If a hearing is requested, the DEA will enter into discussions with the party or parties requesting a hearing in an attempt to narrow the issue for litigation. If necessary, a hearing will then be held before an administrative law judge. The judge will take evidence on factual issues and hear arguments on legal questions regarding the control of the drug. Depending on the scope and complexity of the issues, the hearing may be brief or quite extensive. The administrative law judge, at the close of the hearing, prepares findings of fact and conclusions of law and a recommended decision that is submitted to the administrator of the DEA. The administrator will review these documents, as well as the underlying material, and prepare his or her own findings of fact and conclusions of law (which may or may not be the same as those drafted by the administrative law judge). The administrator then publishes a final order in the *Federal Register*, either scheduling the drug or other substance, or declining to do so.

Once the final order is published in the *Federal Register*, interested parties have 30 days to appeal to a U.S. Court of Appeals to challenge the order. Findings of fact by the administrator are deemed conclusive if supported by "substantial evidence." The order imposing controls is not stayed during the appeal, however, unless so ordered by the court.

EMERGENCY OR TEMPORARY SCHEDULING

In 1984, the FCSA was amended by the Comprehensive Crime Control Act of 1984. This act included a provision that allows the administrator of the DEA to place a substance, on a temporary basis, into Schedule I when necessary to avoid an imminent hazard to the public safety.

This emergency scheduling authority permits the scheduling of a substance that is not currently controlled, is being abused, and is a risk to the public health while the formal rulemaking procedures described in the FCSA are being conducted. This emergency scheduling applies only to substances with no accepted medical use. A temporary scheduling order may be issued for 1 year with a possible extension of up to 6 months if formal scheduling procedures have been initiated. The proposal and

order are published in the *Federal Register* as are the proposals and orders for formal scheduling.

During this time period, the DEA is required, by law, to complete the traditional scheduling process in order to permanently keep the drug or substance in Schedule I of the FCSA. The traditional scheduling process involves the collection, by the DEA, of all information pertaining to the chemistry, pharmacology, toxicology, abuse, and trafficking of the drug or substance. This data will ultimately be used by the DEA and HHS to decide the permanent scheduling of the drug or substance.

CONTROLLED SUBSTANCE ANALOGUES

A new class of substances was created by the Anti-Drug Abuse Act of 1986. Controlled substance analogues are substances that are not controlled substances, but may be found in the illicit traffic. They are structurally or pharmacologically similar to Schedule I or II controlled substances. A controlled substance analogue has no legitimate medical use. A substance that meets the definition of a controlled substance analogue that is intended for human consumption is treated under the FCSA as if it were a controlled substance in Schedule I.

INTERNATIONAL TREATY OBLIGATIONS

United States treaty obligations may require that a drug or other substance be controlled under the FCSA, or rescheduled if existing controls are less stringent than those required by the treaty. The procedures for these scheduling actions are found in Section 201 (d) of the FCSA.

The United States is a party to the Single Convention on Narcotic Drugs of 1961, designed to establish effective control over international and domestic traffic in narcotics, coca leaf, cocaine, and cannabis. A second treaty, the Convention on Psychotropic Substances of 1971, which entered into force in 1976, is designed to establish comparable control over stimulants, depressants, and certain hallucinogens. Congress ratified this treaty in 1980.

REGULATIONS

LEARNING OBJECTIVES: Explain the registration, recordkeeping, distribution, and security of drugs according to the Federal Controlled Substances Act (FCSA).

The FCSA creates a closed system of distribution for those authorized to handle controlled substances. The cornerstone of this system is the registration of all those authorized by the DEA to handle controlled substances. All individuals and firms that are registered are required to maintain complete and accurate inventories and records of all transactions involving controlled substances, as well as security for the storage of controlled substances. See table 7-2.

REGISTRATION

Any person who handles or intends to handle controlled substances must obtain a registration issued by the DEA. A unique number is assigned to each legitimate handler of controlled drugs—importer, exporter, manufacturer, wholesaler, hospital, pharmacy, physician, and researcher. This number must be made available to the supplier by the customer before the purchase of a controlled substance. Thus, the opportunity for unauthorized transactions is greatly diminished.

RECORDKEEPING

The FCSA requires that complete and accurate records be kept of all quantities of controlled substances manufactured, purchased, and sold. Each substance must be inventoried every 2 years. Some limited exceptions to the recordkeeping requirements may apply to certain categories of registrants.

From these records it is possible to trace the flow of any drug from the time it is first imported or manufactured through the wholesale level, to the pharmacy or hospital that dispensed it, and then to the actual patient who received the drug. The mere existence of this requirement is sufficient to discourage many forms of diversion. It actually serves large corporations as an internal check to uncover diversion, such as pilferage by employees.

There is one distinction between scheduled items for recordkeeping requirements. Records for Schedule I and II drugs must be kept separate from all other records of the handler; records for Schedule III, IV,

Table 7-2.—Regulatory Requirements

REGULATORY REQUIREMENTS										
SCHEDULE	REGIS- TRATION	RECORD- KEEPING	DISTRIBUTION RESTRICTIONS	DISPENSING LIMITS	MANUFACTURING		IMPORT / EXPORT		MANUFACTURER / DISTRIBUTOR REPORTS TO DEA	
					SECURITY	QUOTAS	NARCOTIC	NON- NARCOTIC	NARCOTIC	NON- NARCOTIC
I	required	separate	order forms	research use only	vault / safe	yes	permit	permit	yes	yes
II	required	separate	order forms	Rx: written; no refills	vault / safe	yes	permit	permit	yes	yes
III	required	readily retrievable	records required	Rx: written or oral; with medical authorization, refills up to 5 in 6 months	secure storage area	NO but some drugs limited by Schedule II	permit	*	yes	**
IV	required	readily retrievable	records required	Rx: written or oral; with medical authorization, refills up to 5 in 6 months	secure storage area	NO but some drugs limited by Schedule II	permit	declara- tion	Manufac- turer only	**
V	required	readily retrievable	records required	OTC (Rx drugs limited to M.D.'s order)	secure storage area	NO but some drugs limited by Schedule II	permit to import, declaration to export	declara- tion	Manufac- turer only	no

* Permit for some drugs, declaration for others

** Manufacturer reports required for specific drugs

and V substances must be kept in a “readily retrievable” form. The former method allows for more expeditious investigations involving the highly abusable substances in Schedules I and II.

DISTRIBUTION

The keeping of records is required for distribution of a controlled substance from one manufacturer to another, from manufacturer to wholesaler, and from wholesaler to dispenser. In the case of Schedule I and II drugs, the supplier must have a special order form from the customer. This order form (DEA Form 222) is issued by the DEA only to persons who are properly registered to handle Schedules I and II drugs. The form is preprinted with the name and address of the customer. The drugs must be shipped to this name and address. The use of this device is a special reinforcement of the registration requirement; it makes doubly certain that only authorized individuals may obtain Schedule I and II drugs. Another benefit of the form is the special monitoring it permits. The form is issued in triplicate: the customer must keep one copy for his or her own files; he or she forwards two copies to the supplier who, after filling the order, keeps a copy for his or her own records and forwards the third copy to the nearest DEA office.

For drugs in Schedules III, IV, and V, no order form is necessary. The supplier in each case, however, is under an obligation to verify the authenticity of his or her customer. The supplier is held fully accountable for any drugs that are shipped to a purchaser who does not have a valid registration.

Those registered as manufacturers and distributors in Schedule I, II, or III narcotics are also required to submit periodic reports to the DEA of their manufacturing and distribution transactions. They are also required to file annual inventories of the Schedule I, II, or III narcotic-controlled substances that they handle. This data is entered into a system called the Automated Reports and Consolidated Orders System (ARCOS). It enables the DEA to monitor the distribution of controlled substances throughout the country and to identify retail level registrants that receive unusual quantities of controlled substances.

Dispensing to Patients

The dispensing of a controlled substance is the delivery of the controlled substance to the ultimate user, who may be a patient or research subject. Special control mechanisms operate here as well. Schedule I

drugs are those that have no currently accepted medical use in the United States; they may, therefore, be used in the United States only in research situations. They generally are supplied by only a limited number of firms to properly registered and qualified researchers. Controlled substances may be dispensed by a practitioner by direct administration, by prescription, or by dispensing from office supplies. Records must be maintained by the practitioner of all dispensing of controlled substances from office supplies and of certain administrations. The FCSA does not require the practitioner to maintain copies of prescriptions, but certain states require the use of multiple copy prescriptions for Schedule II and other specified controlled substances.

Prescription Drugs

The determination to place drugs on prescription is within the jurisdiction of FDA. Unlike other prescription drugs, however, controlled substances are subject to additional restrictions. Schedule II prescription orders must be written and signed by the practitioner; they may not be telephoned into the pharmacy except in an emergency. In addition, a prescription for a Schedule II drug may not be refilled; the patient must see the physician again in order to obtain more drugs. For Schedule III and IV drugs the prescription order may be either written or oral (that is, by telephone to the pharmacy). In addition, the patient may (if authorized by the doctor) have the prescription refilled on his or her own up to five times and at anytime within 6 months from the date of the initial dispensing.

Schedule V includes some prescription drugs and many over-the-counter narcotic preparations, including antitussives and antidiarrheals. Even here, however, the law imposes restrictions beyond those normally required for the over-the-counter sales; for example, the patient must be at least 18 years of age, must offer some form of identification, and have his or her name entered into a special log maintained by the pharmacist as part of a special record.

SECURITY

DEA registrants are required by regulation to maintain certain security for the storage and distribution of controlled substances. Manufacturers and distributors of Schedule I and II substances must store controlled substances in specially constructed vaults or highly rated safes and maintain electronic security for all stor-

Table 7-3.—Federal Trafficking Penalties

FEDERAL TRAFFICKING PENALTIES																						
		FIRST OFFENSE								SECOND OFFENSE												
SCHEDULE	DRUG	TRACE	5g	100g	500g	1kg	10kg	50kg or More	TRACE	5g	100g	500g	1kg	10kg	50kg or More							
I & II	LSD	MAXIMUM 15 YEARS \$125,000	MAXIMUM 20 YEARS \$250,000						MAXIMUM 30 YEARS \$250,000	MAXIMUM 40 YEARS \$500,000												
	Narcotics*																					
	PCP																					
	Cocaine																					
	Others**	MAXIMUM 5 YEARS \$50,000	MAXIMUM 10 YEARS \$100,000						MAXIMUM 10 YEARS \$100,000	MAXIMUM 10 YEARS \$100,000												
	Hash Oil																					
	Hashish																					
	Marijuana																					
III	All	MAXIMUM 3 YEARS \$25,000								MAXIMUM 6 YEARS \$50,000												
IV	All	MAXIMUM 1 YEAR \$10,000								MAXIMUM 2 YEARS \$20,000												
V	All																					

*Except coca leaves and derivatives.

**Others - some stimulants, some depressants and some hallucinogens.

age areas. Lesser physical security requirements apply to retail level registrants such as hospitals and pharmacies.

All registrants are required to make every effort to make sure controlled substances in their possession are not diverted into the illicit market. This requires operational as well as physical security. For example, registrants are responsible for making sure controlled substances are distributed only to other registrants who are authorized to receive them, or to legitimate patients and consumers.

PENALTIES

LEARNING OBJECTIVES: Identify the federal trafficking penalties for each schedule of drugs and the various types of marijuana. Explain the penalties provided in terms of quantity and first and second offenses.

The FCSA provides penalties for unlawful manufacturing, distribution, and dispensing of controlled

substances. The penalties are basically determined by the schedule of the drug or other substance, and sometimes are specified by drug name, as in the case of marijuana. As the statute has been amended since its initial passage in 1970, the penalties have been altered by Congress. The following tables are an overview of the penalties for trafficking or unlawful distribution of controlled substances. This is not inclusive of the penalties provided under the FCSA. See tables 7-3 and 7-4.

DRUG CHARACTERISTICS

LEARNING OBJECTIVES: Describe the uses and effects of six categories of controlled substances. Describe delirants, designer drugs, and look-alike drugs.

For this chapter, we will place drugs into six categories—narcotics, depressants, stimulants, hallucinogens, cannabis, and steroids. These

Table 7-4.-Federal Trafficking Penalties-Marijuana

QUANTITY	DESCRIPTION	FIRST OFFENSE	SECOND OFFENSE
1,000 kg or more; or 1,000 or more plants	Marijuana Mixture containing detectable quantity *	Not less than 10 years, not more than life. If death or serious injury, not less than 20 years, not more than life. Fine not more than \$4 million individual, \$10 million other than individual.	Not less than 20 years, not more than life. If death or serious injury, not less than life. Fine not more than \$8 million individual, \$20 million other than individual.
100 kg to 1,000 kg; or 100 - 999 plants	Marijuana Mixture containing detectable quantity *	Not less than 5 years, not more than 40 years. If death or serious injury, not less than 20 years, not more than life. Fine not more than \$2 million individual, \$5 million other than individual.	Not less than 10 years, not more than life. If death or serious injury, not less than life. Fine not more than \$4 million individual, \$10 million other than individual.
50 to 100 kg 10 to 100 kg 1 to 100 kg 50 - 99 plants	Marijuana Hashish Hashish Oil Marijuana	Not more than 20 years. If death or serious injury, not less than 20 years, not more than life. Fine \$1 million individual, \$5 million other than individual.	Not more than 30 years. If death or serious injury, life. Fine \$2 million individual, \$10 million other than individual.
Less than 50 kg Less than 10 kg Less than 1 kg	Marijuana Hashish Hashish Oil	Not more than 5 years. Fine not more than \$250,000, \$1 million other than individual.	Not more than 10 years. Fine \$500,000 individual, \$2 million other than individual.

* Includes Hashish and Hashish Oil

(Marijuana is a Schedule 1 Controlled Substance)

controlled substances, their uses and effects, are outlined in table 7-5.

The MA attempting to identify capsules, tablets, and pills should consult the Product section of the *Physicians Desk Reference* (PDR). The PDR is a medical reference book published by the Medical Economics Company. Every MA unit should have a copy within the organization. The PDR contains true color pictures of most all legally manufactured drugs. If the MA has a capsule, tablet, or pill to identify, it may be easily and accurately compared to the photos in the PDR. The MA should bear in mind that if a capsule is being compared, the contents of that capsule may have been replaced and contain a substance other than that supplied by the manufacturer. Similarly, tablets and pills are often impregnated or "laced" with other drugs or substances by drug abusers. For this reason all pills, tablets, and capsules should be field tested.

The MA may obtain a copy of the PDR in several ways. The most common method is by obtaining a preceding year's copy from a local physician when the physician receives the current edition. Navy hospitals,

normal supply channels, and the Naval Criminal Investigative Service (NCIS) are alternate sources.

NARCOTICS

The term *narcotic* is used to describe opium, opium-based derivatives, and synthetic substitutes. The stimulant cocaine is a narcotic by legal definition. Narcotics have been useful in the practice of medicine for relief of intense pain, since they are the most effective analgesics known. The relief they provide may be physical or psychic.

Under medical supervision, narcotics are administered orally or by intramuscular injection. As drugs of abuse, however, they may be sniffed, smoked, or self-administered by the more direct routes of subcutaneous ("skin-popping") and intravenous ("mainlining") injection.

The relief of suffering, whether of physical or psychological origin, may result in a short-lived state of euphoria. The initial effects, however, are often unpleasant, leading many to conclude that those who persist in their illicit use may have latent personality

Table 7-5.—Controlled Substances; Uses and Effects

CONTROLLED SUBSTANCES USES AND EFFECTS											
DRUGS	SCHEDULES	TRADE OR OTHER NAMES	MEDICAL USES	PHYSICAL DEPENDENCE	PSYCHOLOGICAL DEPENDENCE	TOLERANCE	DURATION (Hours)	USUAL METHOD OF ADMINISTRATION	POSSIBLE EFFECTS	EFFECTS OF OVERDOSE	WITHDRAWAL SYNDROME
NARCOTICS											
HEROIN	I	Diacetylmorphine, Horse, Smack	None in U.S., Analgesic, Antitussive	High	High	Yes	3-6	Injected, Sniffed, Smoked	Euphoria, Drowsiness, Respiratory Depression, Constricted Pupils, Nausea	Slow & Shallow Breathing, Clammy Skin, Convulsions, Coma, Possible Death	Watery eyes, Runny Nose, Yawning, Loss of Appetite, Irritability, Tremors, Panic, Cramps, Nausea, Chills & Sweating
MORPHINE	II	Duromorph, MS-Contin, Roxanol, Oramorph SR	Analgesic	High	High	Yes	3-6	Oral, Smoked, Injected			
CODEINE	II, III, V	Tylenol w/Codeine, Empirin w/Codeine, Robitussin AC, Formol w/Codeine, APAP w/Codeine	Analgesic, Antitussive	Moderate	Moderate	Yes	3-6	Oral, Injected			
HYDROCODONE	II, III	Tussionex, Vicodin, Hycodan, Lorcet	Analgesic, Antitussive	High	High	Yes	3-6	Oral			
HYDROMORPHONE	II	Dilaudid	Analgesic	High	High	Yes	3-6	Oral, Injected			
OXYCODONE	II	Percodan, Percocet, Tylox, Roxicet, Roxicodone	Analgesic	High	High	Yes	4-5	Oral			
METHADONE & LAAM	I, II	Dolophine, Methadose, Levo-alpha-acetylmethadol, Levomethadylacetate	Analgesic, Treatment of Dependence	High	High	Yes	12-72	Oral, Injected			
FENYANYL & ANALOGS	I, II	Innovar, Sublimaze, Alfenta, Sufenta, Duragesic	Analgesic, Adjunct to Anesthesia, Anesthetic	High	High	Yes	10-72	Injected, Transdermal Patch			
OTHER NARCOTICS	II, III, IV, V	Percodan, Percocet, Tylox, Opium, Davon, Talwin-2, Buprenorphine, Meperidine (Pethidine), Demoral	Analgesic, Antidiarrheal	High/Low	High/Low	Yes	Variable	Oral, Injected			
DEPRESSANTS											
CHLORAL HYDRATE	IV	Noctec, Somnos, Felsules	Hypnotic	Moderate	Moderate	Yes	5-8	Oral	Slurred Speech, Disorientation, Drunken Behavior without Odor of Alcohol	Shallow Respiration, Clammy Skin, Dilated Pupils, Weak & Rapid Pulse, Coma, Possible Death	Anxiety, Insomnia, Tremors, Delirium, Convulsions, Possible Death
BARBITURATES	II, III, IV	Anytal, Fiorinal, Nembutal, Secobarbital, Tunal, Phenobarbital, Pentobarbital	Hypnotic, Anticonvulsant, Sedative, Hypnotic, Veterinary Euthanasia Agent	High-Mod.	High-Mod.	Yes	1-16	Oral, Injected			
BENZODIAZEPINES	IV	Alibari, Dalmane, Diazepam, Librium, Xanax, Serax, Valium, Tranxene, Valtran, Versed, Halcion, Paxipam, Restoril	Antianxiety, Sedative, Anticonvulsant, Hypnotic	Low	Low	Yes	4-8	Oral, Injected			
GLUTETHIMIDE	II	Doriden	Sedative, Hypnotic	High	Moderate	Yes	4-8	Oral			
OTHER DEPRESSANTS	I, II, III, IV	Equanil, Miltown, Noludar, Placidyl, Valmid, Methaqualone	Antianxiety, Sedative, Hypnotic	Moderate	Moderate	Yes	4-8	Oral			
STIMULANTS											
COCAINE ¹	II	Coke, Flake, Snow, Crack	Local Anesthetic	Possible	High	Yes	1-2	Sniffed, Smoked, Injected	Increased Alertness, Excitation, Euphoria, Increased Pulse Rate & Blood Pressure, Insomnia, Loss of Appetite	Agitation, Increased Body Temperature, Hallucinations, Convulsions, Possible Death	Apathy, Long Periods of Sleep, Irritability, Depression, Disorientation
AMPHETAMINE/METHAMPHETAMINE	II	Biphetamine, Desoxyn, Dexedrine, Osolet, Ise	Attention Deficit Disorder, Narcosis, Weight Control	Possible	High	Yes	2-4	Oral, Injected, Smoked			
METHYLPHENIDATE	II	Ritalin	Attention Deficit Disorder, Narcosis	Possible	High	Yes	2-4	Oral, Injected			
OTHER STIMULANTS	I, II, III, IV	Adipex, Didrex, Ionamin, Mefrat, Plegine, Captagon, Serenox, Tenuate, Tepanil, Prelu-2, Preludin	Weight Control	Possible	High	Yes	2-4	Oral, Injected			
HALLUCINOGENS											
LSD	I	Acid, Microdot	None	None	Unknown	Yes	8-12	Oral	Illusions & Hallucinations, Altered Perception of Time & Distance	Longer, More Intense "Trip" Episodes, Psychosis, Possible Death	Unknown
MESCALINE & PEYOTE	I	Mescal, Buttons, Cactus	None	None	Unknown	Yes	8-12	Oral			
AMPHETAMINE VARIANTS ²	I	SDMA, STP, MDA, MDMA, Ecstasy, DOM, DOB	None	Unknown	Unknown	Yes	Variable	Oral, Injected			
PHENCYCLIDINE & ANALOGS	I, II	PCP, PCPY, TOP, POP, Hog, Loveboat, Angel Dust	None	Unknown	High	Yes	Days	Oral, Smoked			
OTHER HALLUCINOGENS	I	Bufotenine, Ibogaine, DMT, DET, Pellocybin, Psilocybin	None	None	Unknown	Possible	Variable	Smoked, Oral, Injected, Sniffed			
CANNABIS											
MARJUANA	I	Pot, Acapulco Gold, Grass, Reefer, Sinsamilla, Thai Sticks	None	Unknown	Moderate	Yes	2-4	Smoked, Oral	Euphoria, Relaxed Inhibitions, Increased Appetite, Disorientation	Fatigue, Paranoia, Possible Psychosis	Occasional Reports of Insomnia, Hyperactivity, Decreased Appetite
TETRAHYDROCANNABINOL	I, II	THC, Marinol	Antinauseant	Unknown	Moderate	Yes	2-4	Smoked, Oral			
HASHISH & HASHISH OIL	I	Hash, Hash Oil	None	Unknown	Moderate	Yes	2-4	Smoked, Oral			
ANABOLIC STEROIDS											
TESTOSTERONE (Cypionate, Enanthate)	III	Depo-Testosterone, Delatestryl	Hypogonadism	Unknown	Unknown	Unknown	14-28 Days	Injected	Virilization, Ache, Testicular Atrophy, Gynecomastia, Aggressive Behavior, Edema	Unknown	Possible Depression
NANDROLONE (Decanoate, Phenpropionate)	III	Nortestosterone, Durabolin, Deca, Deca-Durabolin	Anemia, Breast Cancer	Unknown	Unknown	Unknown	14-21 Days	Injected			
OXYMETHOLONE	III	Anadrol-50	Anemia	Unknown	Unknown	Unknown	24	Oral			

1. Designated a narcotic under the CSA.

2. Not designated a narcotic under the CSA.

disturbances. Narcotics tend to induce pinpoint pupils and reduced vision, together with drowsiness, apathy, decreased physical activity, and constipation. A larger dose may induce sleep, but there is an increasing possibility of nausea, vomiting, and respiratory depression—the major toxic effect of the opiates. Except in cases of acute intoxication, there is no loss of motor coordination or slurred speech as in the case of the depressants.

To the extent that the response may be felt to be pleasurable, its intensity may be expected to increase with the amount of the dose administered. Repeated use, however, will result in increasing tolerance. The user must administer progressively larger doses to attain the desired effect, thereby reinforcing the compulsive behavior known as drug dependence.

Physical dependence refers to an alteration of the normal functions of the body that necessitates the continued presence of a drug to prevent the withdrawal or abstinence syndrome, which is characteristic of each class of addictive drug. The intensity of physical symptoms experienced during the withdrawal period is related directly to the amount of narcotic used each day. Deprivation of an addictive drug causes increased excitability of those same bodily functions that have been depressed by its habitual use.

With the deprivation of narcotics, the first withdrawal signs are usually experienced shortly before the time of the next scheduled dose. Complaints, pleas, and demands by the addict are prominent, increasing in intensity and peaking from 36 to 72 hours after the last dose, then gradually subsiding. Symptoms such as watery eyes, runny nose, yawning, and perspiration appear about 8 to 12 hours after the last dose. Thereafter, the addict may fall into a restless sleep. As the abstinence syndrome progresses, restlessness, irritability, loss of appetite, insomnia, goose flesh, tremors, and finally yawning and severe sneezing occur. These symptoms reach their peak at 48 to 72 hours. The patient is weak and depressed with nausea and vomiting. Stomach cramps and diarrhea are common. Heart rate and blood pressure are elevated. Chills alternating with flushing and excessive sweating are also characteristic symptoms. Pains in the bones and muscles of the back and extremities occur as do muscle spasms and kicking movements, which may be the source of the expression “kicking the habit.” At this time, some persons may become suicidal. Without treatment, the syndrome eventually runs its course and most of the

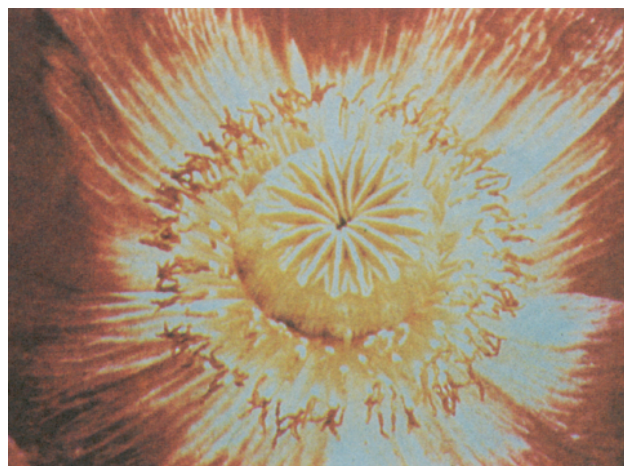
symptoms will disappear in 7 to 10 days. However, the psychological desire for the drug may never be overcome.

Since addicts tend to become preoccupied with the daily round of obtaining and taking drugs, they often neglect themselves and may suffer from malnutrition, infections, and unattended diseases or injuries. Among the hazards of narcotic addiction are toxic reactions to contaminants such as quinine, sugars, and talcum powder, as well as unsterile needles and injection techniques, resulting in abscesses, blood poisoning, and hepatitis. Since there is no simple way to determine the purity of a drug that is sold on the street, the potency is unpredictable. A person with a mild overdose may be stuporous or asleep. Larger doses may induce a coma with slow shallow respiration. The skin becomes clammy cold, the body limp, and the jaw relaxed. There is a danger that the tongue may fall back, blocking the air passageway. If the condition is sufficiently severe, convulsions may occur, followed by respiratory arrest and death.

Narcotics of Natural Origin

The poppy (*papaver somniferum*) (fig. 7-1) is the main source of the nonsynthetic narcotics. It was grown in the Mediterranean region as early as 300 B.C. and has since been cultivated in countries around the world, including Hungary, Yugoslavia, Turkey, India, Burma, China, and Mexico.

The milky fluid that oozes from incisions in the unripe seedpod (fig. 7-2) has since ancient times been scraped by hand and air dried to produce opium gum



C193.281

Figure 7-1.—The poppy (*papaver somniferum*).



Figure 7-2.—The milky fluid from incisions in the unripe seedpod. C193.282



Figure 7-3.—Fluid scraped by hand and air dried to produce opium gum. C193.283

(fig. 7-3). A more modern method of harvesting is by the industrial poppy straw process of extracting alkaloids from the mature dried plant. The extract may be in liquid, solid, or powder form. Most poppy straw concentrate made available commercially is a fine brownish powder with a distinct odor.

OPIUM.—Raw opium (fig. 7-4) has a distinctive and pungent odor. It is most commonly used by smoking in long-stemmed pipes. The user presents a sleepy and relaxed appearance while under the influence of the drug. There is little abuse of opium in the United States.



Figure 7-4.—Opium. C193.284

At least 25 alkaloids can be extracted from opium. These fall into two general categories, each producing markedly different effects. The first category, known as the *phenanthrene* alkaloids and represented by morphine and codeine, is used as analgesics and cough suppressants; the second category, the *isoquinoline* alkaloids, represented by papaverine (an intestinal relaxant) and noscapine (a cough suppressant), has no significant influence on the central nervous system and is not regulated under the FCSA.

Although a small amount of opium is used to make antidiarrheal preparations, such as paregoric, virtually all the opium imported into this country is broken down into its alkaloid constituents, principally morphine and codeine.

Opium can create both mental and physical dependence in the user, and chronic use will result in both symptoms being manifested. Raw opium is the source of morphine, heroin, codeine, paregoric, and other derivatives.

MORPHINE.—Morphine is obtained from a raw opium base through a chemical process. Ten pounds of raw opium is required to yield 1 pound of morphine base, which is then converted on a 1 to 1 ratio to morphine. Ranging in concentration from 4 to 21 percent, morphine is one of the most effective drugs known for the relief of pain.